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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/559,751

09/18/2006

Axel Clausen

1890-0336

1827

7590

04/13/2009

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EXAMINER

PATHAK, SUDHANSHU C

ART UNIT

PAPER NUMBER

2611

MAIL DATE

DELIVERY MODE

04/13/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/559,751	<b>Applicant(s)</b> CLAUSEN ET AL.	
	<b>Examiner</b> SUDHANSHU C. PATHAK	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 13-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 13-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>02/26/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 13-25 are pending in the application.
2. Claims 1-12 have been canceled.

### ***Drawings***

3. Figures 1(A-B) should be designated by a legend such as "Prior Art" since only that which is known is illustrated.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henkel et al. (PAR reduction revisited: an extension to Tellado's method; 6<sup>th</sup>, International OFDM Workshop; 2001; Pages 31-1 –to-31-6).

In regards to Claim 13, Henkel discloses a circuit (method) for reducing the crest factor of a data symbol to be transmitted in a multi-carrier data transmission system, the data symbol being a function of a plurality of signals provided within a predetermined time interval, each of the plurality of signals allocated to a carrier, each carrier occupying at least one frequency from a transmit data spectrum, at least one carrier being reserved which is not provided for data transmission (Fig. 5 & Abstract, lines 1-10), the circuit comprising: a transmit path configured to receive the data symbol (Fig. 5, element  $x^{(0)}$ ,  $x^{(i)}$ ); a model path arranged in parallel with a

Art Unit: 2611

section of the transmit path the model path comprising, a model filter configured to receive at least periodically the data symbol in non-oversampled format, the non-oversampled data symbol (Fig. 5, elements  $\alpha$ , P(I) & Page 31-2, right-column, lines 13-27 & Eq.'s 5-7), an analysis and evaluation circuit arranged following the model filter and configured to determine whether the time domain function of the data symbol exhibits within a predetermined time interval at least one maximum which exceeds a first threshold, and further configured to determine an associated position of the maximum within the time interval, and, by scaling and displacing a dirac-like sample function, to generate a correction function in dependence on the associated position and an amplitude of the maximum (Fig. 5, elements  $\alpha$ , P(I) & Page 31-2, right-column, lines 13-38); and a combining device which is connected to the model path and the transmit path, the combining device configured to subtract the correction function from the data symbol on the transmit path (Fig. 5, element "+"). However, Henkel does not explicitly disclose a non-flat PSD power spectrum. However, it would have been obvious to one of ordinary skill in the art at the time of the invention that there is no criticality in implementing the crest reduction circuit this is a matter of design choice so as to implement the circuit in a multicarrier system including an ADSL+ system which comprises a non-flat PSD power spectrum.

In regards to Claims 14-16, 19-20, 24-25, Henkel discloses a circuit (method) for reducing the crest factor as described above. Henkel further discloses the model path further comprises an oversampling device operably coupled to the model filter (Fig. 5, element " $\uparrow L$ ", "LP") wherein the oversampling device is configured to

Art Unit: 2611

perform two-fold oversampling (Page 31-2, left-column, lines 24-30), and a bypass device configured to selectively bypass the oversampling device Fig. 5, element “start”) {Interpretation: The switch after the “LP” block is interpreted as a bypass device}. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Henkel satisfies the limitation of the claim.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention that there is no criticality in selecting the oversampling rate is a matter of design choice depending on the accuracy of the model desired with respect to the complexity of the system. Furthermore, it would have been obvious to one of ordinary skill in the art at the time of the invention that the two model paths are implemented for either ADSL or ADSL+ standard.

In regards to Claims 17-18, 21-23, Henkel discloses a circuit (method) for reducing the crest factor as described above. Henkel further discloses the model filter is configured to have filter coefficients that are identical for data symbols supplied to the model filter via the oversampling device and for data symbols supplied to the model filter via the bypass device (Page 31-2/3, Eq. 5-7). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention that Henkel satisfies the limitation of the claim.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2611

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SUDHANSHU C. PATHAK whose telephone number is (571)272-5509. The examiner can normally be reached on 9am-5pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh M. Fan can be reached on 571-272-3042.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sudhanshu C Pathak/  
Primary Examiner, Art Unit 2611